

# **Quotations on Creativity**

Paul Schumann

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## ***Creativity and Aging***

Invention is the talent of youth, as judgment is of age.

*Jonathan Swift*

To live means to create.

*Milton Steinberg*

Do not go gentle into that good night,  
Old age should burn and rave at close of day;  
Rage, rage against the dying of the light.

*Dylan Thomas*

Creative intelligence in its various forms and activities is what makes man.

*James Harvey Robinson*

One must not lose desires. They are mighty stimulants to creativeness to love, and to long life.

*Alexander A. Bogomoletz*

No matter how old you get, if you can keep the desire to be creative, you're keeping the man-child alive.

*John Cassavetes*

The past is but the beginning of a beginning.

*H. G. Wells*

Every beginning is a consequence - every beginning ends some thing.

*Paul Valery*

## **Attributes of a Creative Person**

Arrival at the age of 16 is usually all that is required for achieving half of this important attribute of creativity. It is unusual to find a "contented" young person; discontent goes with that time of life. To the young, everything needs improvement ... As we age, our discontent wanes; we learn from our society that "fault-finders" disturb the status quo of the normal, average "others." Squelch tactics are introduced. It becomes "good" not to "make waves" or "rock the boat" and to "let sleeping dogs lie" and "be seen but not heard." It is "good" to be invisible and enjoy your "autonomy." It is "bad" to be a problem-maker. And so everything is upside-down for creativity and its development. Thus, constructive attitudes are necessary for a dynamic condition; discontent is prerequisite to problem solving. Combined, they define a primary quality of the creative problem-solver: a constantly developing Constructive Discontent.

*Don Koberg and Jim Bagnall*

***The Universal Traveler. A Soft-Systems Guide to: Creativity, Problem-Solving, and the Process of Design***

I would propose the following statements as descriptive of creative artists, and perhaps also of creative scientists:

Creative people are especially observant, and they value accurate observation (telling themselves the truth) more than other people do.

They often express part-truths, but this they do vividly; the part they express is the generally unrecognized; by displacement of accent and apparent disproportion in statement they seek to point to the unusually unobserved.

They see things as others do, but also as others do not.

They are thus independent in their cognition, and they also value clearer cognition. They will suffer great personal pain to testify correctly.

They are motivated to this value and to the exercise of this talent (independent, sharp observation) both for reasons of self-preservation and in the interest of human culture and its future.

They are born with greater brain capacity; they have more ability to hold many ideas at once, and to compare more ideas with one another -- hence to make a richer synthesis.

In addition to unusual endowment in terms of cognitive ability, they are by constitution more vigorous and have available to them an exceptional fund of psychic and physical energy.

Their universe is thus more complex, and in addition, they usually lead more complex lives, seeking tension in the interest of the pleasure they obtain upon its discharge.

They have more contact than most people do with the life of the unconscious, with fantasy, reverie, the world of imagination.

They have exceptionally broad and flexible awareness of themselves. The self is strongest when it can regress (admits primitive fantasies, naive ideas, tabooed impulses into consciousness and behavior), and yet return to a high degree of rationality and self-criticism. The creative person is both more primitive and more cultured, more destructive and more constructive, crazier and saner, than the average person.

*Frank Barron*  
***Scientific American***  
9/58

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*Frank X. Barren*

Few of the great creators have bland personalities. They are cantankerous egotists, the kind of men who are unwelcome in the modern corporation.

*David Mackenzie Ogilvy*

At 17, in 1581, he matriculated as a student in medicine at the University of Pisa. There his constant questioning of the text and lectures held before him made him stand out as an unusual individualist. It also made him unpopular with the more creative teachers and fellow students.\*

Galileo, thus squelched by teachers and fellow students, may give us the first recorded instance of a creative youngster in school being met with impatience.

\*Quoted from Berm Dibner and Stillman Drake, *A Letter from Galileo Galilei* (Norwalk, Conn.: Burndy Library, 1967), p. 56.

*A. D. Moore*

***Invention, Discovery and Creativity***

A bit of our folklore has it that inventors are often slightly off the beam; or, shall we say, a bit wacky. One of our sayings is, "You don't have to be crazy to be an inventor, but it helps."

*A. D. Moore*

***Invention, Discovery and Creativity***

In 1939 at a banquet in Ann Arbor, I had the good fortune to be seated next to a very personable young chap of twenty-nine who was already on his way to fame and fortune. I had a good long talk with this college dropout. After a freshman year at Harvard, he quit, to perfect his first invention; and he never finished college. He now holds over two hundred patents. Discoveries, he says, are made "by some individual who has freed himself from a way of thinking that is held by friends and associates who may be more intelligent, better educated, better disciplined, but who have not mastered the art of the fresh 'clean look at the old, old knowledge.'" He himself often spends prolonged periods working on projects in his plant's laboratory. Fortune magazine says that he and his wife are worth over half a million dollars. This is Edwin H. Land, inventor of Polaroid and maker of Polaroid cameras.

*A. D. Moore*

***Invention, Discovery and Creativity***

Discipline and focused awareness contribute to the act of creation.

*John Poppy*

There is a correlation between the creative and the screwball. So we must suffer the screwball gladly.

*Kingman Brewster*

The difference between a top-flight creative man and the hack is his ability to express powerful meanings indirectly.

*Vance Packard*

It is the function of creative men to perceive the relations between thoughts, or things, or forms of expression that may seem utterly different, and to be able to combine them into some new forms - the power to connect the seemingly unconnected.

*William Plomer*

## **Blocks to Creativity**

The specialized semantics of established knowledge constitutes conventions, which make reality abstract and secondhand. Learned conventions can be windowless fortresses, which exclude viewing the world in new ways.

*William J. J. Gordon*  
***Synectics***

The reason for your complaint (about not being creative) lies, it seems to me, in the constraint which your intellect imposes upon your imagination. Here I will make an observation, and illustrate it by an allegory. Apparently, it is not good -- and indeed it hinders the creative work of the mind -- if the intellect examines too closely the ideas already pouring in, as it were, at the gates. Regarded in isolation, an idea may be quite insignificant, and venturesome in the extreme, but it may acquire importance from an idea, which follows it; perhaps, in a certain collocation with other ideas, which may seem equally absurd, it may be capable of furnishing a very serviceable link. The intellect cannot judge all those ideas unless it can retain them until it has considered them in connection with these other ideas. In the case of a creative mind, it seems to me, the intellect has withdrawn its watchers from the gates, and the ideas rush in pell-mell, and only then does it review and inspect the multitude. You worthy critics, or whatever you may call yourselves, are ashamed or afraid of the momentary and passing madness which is found in all real creators, the longer or shorter duration of which distinguishes the thinking artist from the dreamer. Hence your complaints of unfruitfulness, for you reject too soon and discriminate too severely.

*Shiller*  
***The Basic Writings of Sigmund Freud***  
*A. A. Bell*

The creative process requests more than reason. Most original thinking isn't even verbal. It requires a groping experimentation with ideas -- governed by intuitive hunches, and inspired by the unconscious. The majority of businessmen are incapable of original thinking, because they are unable to escape from the tyranny of reason. Then

imaginations are blocked.

*David Mackenzie Ogilvy*

In our day of dedication to facts and hardheaded objectivity, we have disparaged imagination: it gets us away from "reality"; it taints our work with "subjectivity"; and, worst of all, it is said to be unscientific.

*Rollo May*  
***The Courage to Create***

If you see in any given situation only what everybody else can see, you can be said to be so much a representative of your culture that you are a victim of it.

*S. I. Hayakawa.*

## **Brain Function and Creativity**

Thomas Gladwin, an anthropologist, contrasted the ways that a European and a native Trukese sailor navigated small boats between tiny islands in the vast Pacific Ocean.

"Before setting sail, the European begins with a plan that can be written in terms of directions, degrees of longitude and latitude, estimated time of arrival at separate points on the journey. Once the plan is conceived and completed, the sailor has only to carry out each step consecutively, one after another, to be assured of arriving on time at the planned destination. The sailor uses all available tools, such as a compass, a sextant, a map, etc., and if asked, can describe exactly how he got where he was going."

The European navigator uses the left-hemisphere mode.

"In contrast, the native Trukese sailor starts his voyage by imaging the position of his destination relative to the position of the islands. As he sails along, he constantly adjusts his direction according to his awareness of his position thus far. His decisions are improvised continually by checking relative positions of landmarks, sun, wind direction, etc. He navigates with reference to where he started, where he is going, and the space between his destination and the point where he is at the moment. If asked how he navigates so well without instruments or a written plan, he cannot possibly put it into words. This is not because the Trukese are unaccustomed to describing things in words, but rather because the process is too complex and fluid to be put into words."

The Trukese navigator uses the right-hemisphere mode.

*J. A. Paredes and M. J. Hepburn*  
***The Split-Brain and the Culture-Cognition Paradox***

The development of an Observer can allow a person considerable access to observing different identity states, and an outside observer may often clearly infer different identity states, but a person himself who has not developed the Observer function very well may never notice the many transitions from one identity state to another.

*Charles T. Tart*  
***Alternative States of Consciousness***

Krishnamurti: "So where does silence begin? Does it begin when thought ends? Have you ever tried to end thought?"

Questioner: "How do you do it?"

Krishnamurti: "I don't know, but have you ever tried it? First of all, who is the entity who is trying to stop thought?"

Questioner: "The thinker."

Krishnamurti: "It's another thought, isn't it? Thought is trying to stop itself, so there is a battle between the thinker and the thought ...

Thought says, 'I must stop thinking because then I shall experience a marvelous state'...One thought is trying to suppress another thought, so there is conflict. When I see this as a fact, see it totally, understand it completely, have an insight into it ... then the mind is quiet. This comes about naturally and easily when the mind is quiet to watch, to look, to see."

*J. Krishnamurti*  
***You Are the World***

Blind swimmer, I have made myself see. I have seen. And I was surprised and enamored of what I saw, wishing to identify myself with it...

*Max Ernst*

To transform the world, we must begin with ourselves; and what is important in beginning with ourselves is the intention. The intention must be to understand ourselves and not to leave it to others to transform themselves ... This is our responsibility, yours and mine; because, however small may be the world we live in, if we can bring about a radically different point of view in our daily existence, then perhaps we shall affect the world at large.

*J. Krishnamurti*  
*Self Knowledge*  
***The First and Last Freedom***

A monk asked his teacher, 'What is my self?' The teacher answered, 'There is something deeply hidden within your self, and you must become acquainted with its hidden activity.' The monk then asked to be told what this hidden activity was. The teacher just opened and closed his eyes.

*Frederick Franck*  
***The Zen of Seeing***

Tesla, an extremely productive technological innovator (fluorescent lights, the AC generator, and the "Tesla" coil) apparently had incredible visualization powers. Tesla "could project before his eyes a picture complete in every detail, of every part of the machine. These pictures were more vivid than any blueprint." Further, Tesla claimed to be able to test his devices mentally, by having them run for weeks -- after which time he would examine them thoroughly for signs of wear.

*J. J. O'Neill*  
***Prodigal Genius***

A particularly important mode of thinking, which I have referred to several times before and which is presently receiving increased attention academically, is visual thinking. For an excellent treatment of this subject read Bob McKim's ***Experiences in Visual Thinking*** and Rudolf Arnheim's ***Visual Thinking***. Visualization is an important thinking mode, which is especially useful in solving problems where shapes, forms, or patterns are concerned. Arnheim explains: "Visual thinking is constantly used by everybody. It directs figures on a chess board and designs global politics on the geographical map. Two dexterous moving men steering a piano along a winding staircase think visually in an intricate sequence of lifting, shifting, and turning..." All of us are used to using visual imagery in some situations. For instance, visual imagery is extremely common in dreams. It is also common if someone asks us a question about the appearance of a person or a place. But it is also used in conceptualization, at times when one would not obviously expect its use.

*Adams*  
***Conceptual Blockbusting***

The important and profound aspect of the Dionysian principle is that of ecstasy. It was in connection with Dionysian revels that Greek drama was developed, a magnificent summit of creativity, which achieved a union of form and passion with order and vitality. Ecstasy is the technical term for the process in which this union occurs.

I use the word, of course, not in its popular and cheapened sense of "hysteria," but in its historical, etymological sense of "ex-stasis" -that is, literally to "stand out from," to be freed from the usual split between subject and object which is a perpetual dichotomy in most human activity. Ecstasy is the accurate term for the intensity of consciousness that occurs in the creative act.

*Rollo May*  
***The Courage to Create***

## **Communicating Creative Ideas**

In prose, the worst thing one can do with words is to surrender to them. When you think of a concrete object, you think wordlessly, and then, if you want to describe the thing you have been visualizing, you probably hunt about till you find the exact words that seem to fit. When you think of something abstract you are more inclined to use words from the start, and unless you make a conscious effort to prevent it, the existing dialect will come rushing in and do the job for you, at the expense of blurring or even changing your meaning. Probably it is better to put off using words as long as possible and get one's meaning clear as one can through pictures or sensations.

*George Orwell*  
***Politics and the English Language***



Heraclitus said, "Conflict is both king of all and father of all." He was referring to the theme I am here stating: conflict presupposes limits, and the struggle with limits is actually the source of creative productions. The limits are as necessary as those provided by the banks of a river, without which the water would be dispersed on the earth and there would be no river - that is, the river is constituted by the tension between the flowing water and the banks. Art in the same way requires limits as a necessary factor in its birth.

Creativity arises out of the tension between spontaneity and limitations, the latter (like the river banks) forcing the spontaneity into the various forms which are essential to the work of art or poem.

*Rollo May*  
***The Courage to Create***

## Definitions

Every creative act involves a new innocence of perception, liberated from the cataract of accepted belief.

*Arthur Koestler*

I am used now to thinking of two kinds of science, and two kinds of technology. Science can be defined, if you want to, as a technique whereby uncreative people can create and discover, by working along with a lot of other people, by standing upon the shoulders of people who have come before them, by being cautious and careful, and so on. That I'll call secondary creativeness and secondary science.

*A. Maslow*  
***Emotional Blocks to Creativity***

A creative act is "the combination of previously unrelated structures in such a way that you get more out of the emergent whole than you have put in. it.

*Arthur Koestler*

What is now proved was once only imagined.

*Blake*  
***Proverbs of Hell***

Whatever now is established, once was innovation.

*Jeremy Bentham,*  
***A Fragment of Government***

Invention is the bringing out the secrets of nature and applying them for the happiness of man.

*Thomas Alva Edison*

Creativeness, to venture a crude definition, is the production and disclosure of a new fact,

law, relationship, device or product, process or system based generally on available knowledge but not following directly, easily, simply, or even by usual logical processes from the guiding information at hand. A possible explanation of creativeness is that it is based on intuitive processes.

*A. N. Goldsmith  
Creativity: A Symposium  
IRE Student Quarterly (9/57)*

When we define creativity, we must make the distinction between its pseudo forms, on the one hand - that is, creativity as a superficial aestheticism. And, on the other, its authentic form - that is, the process of bringing something new into being. The crucial distinction is between art as artificiality (as in "artifice" or "artful") and genuine art.

*Rollo May  
**The Courage to Create***

In this sense genuine artists are so bound up with their age that they cannot communicate separated from it. In this sense, too, the historical situation conditions the creativity. For the consciousness which obtains in creativity is not the superficial level of objectified intellectualization, but is an encounter with the world on a level that undercuts the subject-object split. "Creativity," to rephrase our definition, "is the encounter of the intensively conscious human being with his or her world.

*Rollo May  
**The Courage to Create***

As Picasso remarked, "Every act of creation is first of all an act of destruction."

The breakthrough carries with it also an element of anxiety. For it not only broke down my previous hypothesis, it shook my self-world relationship. At such a time I find myself having to seek a new foundation, the existence of which I as yet don't know. This is the source of the anxious feeling that comes at the moment of the breakthrough; it is not possible that there be a genuinely new idea without this shake up occurring to some degree.

*Rollo May  
**The Courage to Create***

The useful combinations that come through from the unconscious are precisely the most beautiful, I mean those best able to charm this special sensibility that all mathematicians know, but of which the profane are so ignorant as often to be tempted to smile at it.

... Among the great numbers of combinations blindly formed by the subliminal self, almost all are without interest and without utility; but just for that reason they are also without effect upon the esthetic sensibility. Consciousness will never know them; only certain ones are harmonious, and, consequently, at once useful and beautiful. They will be capable of touching this special sensibility of the geometer of which I have just spoken, and which, once aroused, will call our attention to them, and thus give them

occasion to become conscious.

*Poincare*  
*Rollo May*  
***The Courage to Create***

Creativity occurs in an act of encounter and is to be understood with this encounter as its center.

*Rollo May*  
***The Courage to Create***

The creative process is the expression of this passion for form. It is the struggle against disintegration, the struggle to bring into existence new kinds of being that give harmony and integration.

Plato has for our summation some charming advice:

"For he who would proceed aright in this manner should begin in youth to visit beautiful forms; and first, if he be guided by his instructor aright, to love one such form only - out of that he should create fair thoughts; and soon he will of himself perceive that the beauty of one form is akin to the beauty of another, and that beauty in every form is one and the same."

*Rollo May*  
***The Courage to Create***

Inventing is a combination of brains and materials. The more brains you use, the less material you need.

*Charles F. Kettering*

Abstract ideas are the patterns two or more memories have in common. They are born whenever someone realizes that similarity. Creative thinking may mean simply the realization that there's no particular virtue in doing things the way they always have been done.

*Rudolf Flesch*

Research is to see what everybody else has seen, and to think what nobody else has thought.

*Albert Szent-Gyorgyi*

For after the object is removed or the eye shut, we still retain an image of the things seen, though more obscure than when we see it... Imagination, therefore, is nothing but decaying sense.

*Thomas Hobbes*  
*(1588-1679)*

## External Resistance to Creativity

Those who create are rare; those who cannot are numerous. Therefore, the latter are stronger.

*Gabrielle "Coco" Chanel*

Dogmatists of all kinds - scientific, economic, moral, as well as political - are threatened by the creative freedom of the artist. This is necessarily and inevitably so. We cannot escape our anxiety over the fact that the artists together with creative persons of all sorts, are the possible destroyers of our nicely ordered systems. For the creative impulse is the speaking of the voice and the expressing of the forms of the preconscious and unconscious; and that is, by its very nature, a threat to rationality and external control.

*Rollo May*

*The Courage to Create*

He who builds a better mousetrap these days runs into material shortages, patent-infringement suits, work stoppages, collusive bidding, discount discrimination - and taxes.

*H. E. Martz*

## Internal Struggle to be Creative

Anxiety is the essential condition of intellectual and artistic creation... and everything that is finest in human history.

*Charles Frankel*

To be willing to suffer in order to create is one thing; to realize that one's creation necessitates one's suffering, that suffering is one of the greatest of God's gifts, is almost to reach a mystical solution of the problem of evil.

*J. W. N. Sullivan*

## Motivation to be Creative

The mainspring of creativity appears to be the same tendency, which we discover so deeply as the curative force in psychotherapy -- man's tendency to actualize himself, to become his potentialities. By this I mean the directional trend, which is evident in all organic and human life -- the urge to expand, extend, develop, mature -- the tendency to express and activate all the capacities of the organism, to the extent that such activation enhances the organism or the self. This tendency may become deeply buried under layer after layer of encrusted psychological defenses; it may be hidden behind elaborate facades which deny its existence; it is my belief, however, based on my experience, that it exists in every individual and awaits only the proper conditions to be released and expressed.

*Carl Rogers*

*"Toward a Theory of Creativity" from*

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***Creativity and its Cultivation***  
*Edited by H. Anderson*

You men must learn to think.

"Where there is no vision, the people perish."

*T. J. Watson*  
*Proverbs, 24, 18*  
*From an essay by T. J. Watson*  
***As A Man Thinks***

Our future progress, our future prosperity, will come from the discovery of new materials, new processes and new uses for old products with which to further enrich the lives of men.

*T. J. Watson*  
***As A Man Thinks***

Technological change demands an even greater measure of adaptability and versatility on the part of management in a large organization. Unless management remains alert, it can be stricken with complacency -- one of the most insidious dangers we face in business. In most cases it's hard to tell that you've ever caught the disease until it's almost too late. It is frequently most infectious among companies who have reached the top. They get to believing in the infallibility of their judgments.

*T. J. Watson, Jr.*  
***A Business and Its Beliefs***

It is no one's fault, but everyone's problem.

*R. F. Wagner, Jr.*

Calm times teach few lessons. A diversity is a great teacher.

*Otto Eckstein*

Panoptical purview of political progress and the future presentation of the past.

*James Joyce*  
***Finnegan's Wake***

Ideas are, in truth, forces.

*Henry James*

Creativity is a drug. I can't do without.

*Cecil B. DeMille*

Man is made to create, from the poet to the potter.

*Benjamin Disraeli*

He that invents a machine augments the power of a man and the well being of mankind.

*Henry Ward Beechen*

Where we cannot invent, we may at least improve; we may give somewhat of novelty to that which was old, condensation to that which was diffuse, perspicuity to that which was obscure, and currency to that which was recondite.

*Charles Caleb Colton*

Innovation stimulates excitement and new ideas invigorate progress.

*V. Goldberg*

Comfortable, conservative, complacent people do not create. Why should they? They like it the way things are. Creativity means change of some sort and that means two kinds of disturbance. First, one's routines are disturbed in order to create. Second, if something new is created, it means change for the individual himself; and often, for others who are affected.

The creative process is not a comfortable thing. It involves urge, pressure. Some pressure is a part of the game for the experience is both disturbing in some degree, and also tantalizing.

*A. D. Moore*

***Invention, Discovery and Creativity***

Creativity is a yearning for immortality. We human beings know that we must die. We have, strangely enough, a word for death. We know that each of us must develop the courage to confront death. Yet we also must rebel and struggle against it. Creativity comes from this struggle - out of the rebellion the creative act is born. Creativity is not merely the innocent spontaneity of our youth and childhood; it must also be married to the passion of the adult human being, which is a passion to live beyond one's death.

*Rollo May*

***The Courage to Create***

This passion for form is a way of trying to find and constitute meaning in life. And this is what genuine creativity is. Imagination, broadly defined, seems to me to be a principle in human life underlying even reason, for the rational functions, according to our definitions, can lead to understanding - can participate in the constituting of reality only as they are creative. Creativity is thus involved in our every experience as we try to make meaning in our self-world relationship.

*Rollo May*

***The Courage to Create***

Want is the mistress of invention.

*Susanna Centlivre*  
(1667?-1723)

Invention breeds invention.

*Ralph Waldo Emerson*

High heels were invented by a woman who had been kissed on the forehead.

*Christopher Morley*

If necessity is the mother of invention, what was papa doing?

*Ruth Weekley*

Invention is the mother of necessity.

*Thorstein Veblen*

Now I really make the little idea from clay, and I hold it in my hand. I can turn it, look at it from underneath, see it from one view, hold it against the sky, imagine it any size I like, and really be in control almost like God creating something.

*Henry Moore*

## **The Creative Process**

The words or the language, as they are written or spoken, do not seem to play any role in my mechanism of thought. The psychical entities, which seem to serve as elements in thought are certain signs and more or less clear images which can be 'voluntarily' reproduced and combined.

*Albert Einstein*

"Many meditative disciplines take the view that... one possesses (or can develop) an Observer that is highly objective with respect to the ordinary personality. Because it is an Observer that is essentially pure attention/awareness, it has not characteristics of its own." Professor Tart goes on to say that some persons who feel that they have a fairly well developed Observer "feel that this Observer can make essentially continuous observations not only within a particular d-SoC (discrete start of consciousness) but also during the transition between two or more discrete states."

*Charles T. Tart*

***Putting the Pieces Together***

Oh, Kitty, how nice it would be if we could only get through into Looking Glass House! I'm sure it's got, oh! such beautiful things in it! Let's pretend there's a way of getting through into it, somehow, Kitty. Let's pretend the glass has got all soft like gauze, so that we can get through. Why, it's turning to a mist now, I declare! It'll be easy enough to get through..."

*Lewis Carroll*

***Through the Looking Glass***

The life of Zen begins with the opening of satori. Satori may be defined as intuitive looking into, in contradistinction to intellectual and logical understanding. Whatever the definition, satori means the unfolding of a new world hitherto unperceived.

*D. T. Suzuki*

*Satori*

***An Introduction to Zen Buddhism***

Preconscious processes are assailed from both sides. From one side they are nagged and prodded into rigid and distorted symbols by unconscious drives which are oriented away from reality and which consist of rigid compromise formations, lacking in fluid inventiveness. From the other side they are driven by literal conscious purpose, checked and corrected by conscious retrospective critique.

*Kubie*  
***Neurotic Distortion***

I turned my chair to the fire and dozed. Again the atoms were gamboling before my eyes. This time the smaller groups kept modestly in the background. My mental eye, rendered more acute by repeated visions of this kind, could now distinguish larger structures, of manifold conformation; long rows, sometimes more closely fitted together; all twining and twisting in snakelike motion. But look! What was that? One of the snakes had seized hold of its own tail, and the form whirled mockingly before my eyes. As if by a flash of lightning, I awoke.

*Frederick Kekule*  
***The Art of Creation***  
*Koestler*

A wealth of suggestion links in this one thought. Too often we labor under the burden of a "fixed idea" -- the result, generally, of a fixed point of view. The ability to see a problem from every angle and to reverse, when need be, all pre-established convictions provides the light of inspiration and constructive thought.

*T. J. Watson*  
***As A Man Thinks***

Thought begets the will to create.

*T. J. Watson*  
***As A Man Thinks***

It is better to aim at perfection and miss than it is to aim at imperfection and hit it.

*T. J. Watson*

There is no magic formula for achieving creativity -- it is simply a way of life in a laboratory dedicated to discovery and invention.

*Paul Solzberg*  
***Think (1962)***

In the complicated situations of life, we have to solve numerous problems and make many decisions. It is absurd to think that reason should be our guide in all cases. Reason is too slow and too difficult. We do not have the necessary data or we cannot simplify our problem sufficiently to apply the methods of reasoning. What then must we do? Why not do what the human race has always done -- use the abilities we have -- our common sense, judgment, and experience. We underrate the importance of intuition. In almost every scientific problem which I have succeeded in solving, even after those that have



taken days or months of work, the final solution has come to my mind in a fraction of a second by a process which is not consciously one of reason. Such intuitive ideas are often wrong. The good must be sorted out from the bad -- sometimes by common sense or judgment -- other times by reasoning. The power of the human mind is far more remarkable than one ordinarily thinks.

*Irving Langmuir*  
*Creativity: A Symposium*  
*IRE Student Quarterly* (9/57)  
*A. N. Goldsmith*

I believe in intuition and inspiration. At times I feel certain I am right while not knowing the reason. Imagination is more important than knowledge. For knowledge is limited, whereas imagination embraces the entire world, stimulating progress, giving birth to evolution. It is, strictly speaking, a real factor in scientific research.

*Albert Einstein*  
*Creativity: A Symposium*  
*IRE Student Quarterly* (9/57)  
*A. N. Goldsmith*

[After previous investigations of a problem] . . . in all directions . . . happy ideas come unexpectedly without effort, like an inspiration. So far as I am concerned they have never come to me when my mind is fatigued or when I was at my working table. [Helmholtz got his inspirations when rested -- often in the morning.]

*Helmholz*

[The positive attitude] is a characteristic of creative people. Form the habit of reacting Yes to a new idea. First, think of all the reasons why it's good; there will be plenty of people around to tell you why it won't work . . . Be on the alert for hunches, and whenever you find one hovering on the threshold of your consciousness, welcome it with open arms. Doing these things won't transform you into a genius overnight. But they're guaranteed to help you locate that treasure chest of ideas, which lie hidden at the back of your own brain . . . It's generally a hunch that starts the inventor on his quest . . . Later on, perhaps after weeks of fruitless searching, another inspiration, arriving when he least expects it, drops the answer in his lap. I've seen this happen over and over. But I've yet to meet that "coldly calculating man of science" whom the novelists extol. Candidly, I doubt that he exists; and if he did exist, I fear that he would never make a startling discovery or invention.

*C. Guy Suits*  
*Alex Osborn*  
***Your Creative Power***

The way is to sit down and, consciously and with a good deal of self-discipline, force yourself to think hard about the problem. It usually takes, he finds, a number of hours, which may not necessarily be in a continuous stretch. The mental effort here must be great. But after the mental effort has been put forth, the problem thereafter haunts the

mind; that is, you know your brain is working on it because bits of it keep entering the consciousness, at odd moments. Thereafter the subconscious work requires some time -- perhaps days or months. A booster shot of conscious effort may be required from time to time, but in the main you can do other things with your conscious attention. Just when the solution will come (if at all) is entirely unpredictable.

*H. R. Crane  
The g Factor of the Electron  
Scientific American  
(January 1968)  
Speaking about Poincare*

The creative process must be explored not as the product of sickness, but as representing the highest degree of emotional health, as the expression of the normal people in the act of actualizing themselves. Creativity must be seen in the work of the scientist as well as in that of the artist, in the thinker as well as in the aesthetician; and one must not rule out the extent to which it is present in captains of modern technology as well as in a mother's normal relationship with her child.

*Rollo May  
The Courage to Create*

The first thing we notice in a creative act is that it is an encounter.

*Rollo May  
The Courage to Create*

The fourth characteristic of this experience is that the insight comes at a moment of transition between work and relaxation. It comes at in periods of voluntary effort.

*Rollo May  
The Courage to Create*

Albert Einstein once asked a friend of mine in Princeton, "Why is it I get my best ideas in the morning while I'm shaving?" My friend answered, as I have been trying to say here, that often the mind needs the relaxation of inner controls - needs to be freed in reverie or day dreaming - for the unaccustomed ideas to emerge.

*Rollo May  
The Courage to Create*

A sine qua non of creativity is the freedom of artists to give all the elements within themselves free play in order to open up the possibility of what Blok excellently calls "the creative will."

*Rollo May  
The Courage to Create*

Whatever the intention of the Delphic priests, the effect of ambiguous prophecies was to force the suppliants to think out their situation anew, to reconsider their plans, and to conceive of new possibilities. Apollo, indeed, was nicknamed the "ambiguous one."

*Rollo May*

### *The Courage to Create*

When my insight "suddenly breaks through - which may happen when I am chopping wood in the afternoon - I experience a strange lightness in my step as though a great load were taken off my shoulders, a sense of joy on a deeper level that continues without any relation whatever to the mundane tasks that I may be performing at the time. It cannot be just that the problem at hand has been answered - that generally brings only a sense of relief. What is the source of this curious pleasure?

I propose that it is the experience of this-is-the-way-things-are-meant-to-be. If only for that moment, we participate in the myth of creation. Order comes out of disorderly form out of chaos, as it did in the creation of the universe. The sense of joy comes from our participation, no matter how slight, in being as such. The paradox is that at that moment we also experience more vividly our own limitations. We discover the amor fati that Nietzsche writes about - the love of one's fate. No wonder it gives a sense of ecstasy!

*Rollo May*

### *The Courage to Create*

The so-called Ah-ha! reaction... shows up as a deceleration of six heartbeats or more.

*The IQ's Connected to the Heartbeat*

Science

5/82

When I am... completely myself, entirely alone ... or during the night when I cannot sleep, it is on such occasions that my ideas flow best and most abundantly. When and how these come I know not nor can I force them ... Nor do I hear in my imagination the parts successively, but I hear them gleich alles zusammen (at the same time all together).

*Wolfgang Amadeus Mozart*

Somebody once asked Anton Bruckner: "Master, How, when, where did you think of the divine motif of your Ninth Symphony?" Well, it was like this," Bruckner replied. "I walked up the Kahlenberg, and when it got hot and I got hungry, I sat down by a little brook and unpacked my Swiss cheese. And just as I open the greasy paper, that darn tune pops into my head!"

*Anton Bruckner*

## **Value of Creativity**

To be shaken out of the ruts of ordinary perception, to be shown for a few timeless hours the outer and inner world, not as they appear to an animal obsessed with words and notions, but as they are apprehended, directly and unconditionally, by Mind at Large. This is an experience of inestimable value to everyone.

*Aldous Huxley*

To empty one's minds of all thought and refill the void with a spirit greater than oneself is to extend the mind into a realm not accessible by conventional processes of reason.

*Edward Hill*

The use of history is to give value to the present hour and its duty.

*Emerson*

The great creative individual ... is capable of more wisdom and virtue than collective man ever can be.

*John Stuart Mill*  
*1806-1873*